

REMARKS

Claims 1-12 and 14-19 are pending in this application. For purposes of expedition, claim 13 has been canceled without prejudice or disclaimer. Claims 1 and 14-18 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

Claims 2-4, 6-8, 10-12, 14 and 15 have been conditionally allowed if rewritten in independent form to include all of the limitations of their respective base claims 1 and 13. The Examiner's indication of allowability of these claims is noted with appreciation. For purposes of expedition, claims 14 and 15 have been rewritten in independent form to include all limitations of their respective base claim 13 in order to place in condition for allowance. Likewise, dependent claims 16-17 have been amended to depend upon the now allowed claims 14-15. With respect to claims 2-4, 6-8, and 10-12, forbearance is respectfully requested pending Applicants' traversal of the outstanding rejection of base claim 1.

Claims 1, 5, 9, 13 and 16-19 have been rejected under 35 U.S.C. §102(b) as being anticipated by Karita, U.S. Patent No. 4,868,431 for reasons stated on page 2 of the Office Action (Paper No. 0704). As previously discussed, claim 13 has been canceled without prejudice or disclaimer to render its rejection moot. Claims 16-17 have been amended to depend upon the now allowed claim 14 to render their rejection moot. With respect to base claims 18 and 19, Applicants respectfully traverse the rejection for reasons discussed herein below.

First of all, Applicants note that the Examiner bears the initial burden of establishing a *prima facie* case of anticipation. Only if this burden is met does the burden of coming forward with rebuttal argument or evidence shift to the Applicants. Ex parte Levy, 17 USPQ2d 1461, 1462 (1990) expressly states:

"it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference."

In addition, 37 CFR §1.106(b) requires the Examiner, when rejecting claims for want of novelty or for obviousness, must cite the best references at his command. When a reference is complex or shows or describes inventions other than that claimed by the Applicants, the particular part relied upon must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

Moreover, in order to anticipate Applicants' base claims 18-19 under 35 U.S.C. §102(b), the Examiner must demonstrate that a single prior art reference discloses each and every feature of the claimed invention, either explicitly or inherently. See Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043, 34 USPQ2d 1565, 1567 (Fed. Cir. 1995). The absence from the reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

In the present situation, the Examiner has **not** addressed or explained how Karita '431 discloses each and every elements as defined in Applicants' base claims 18-19, and has therefore failed to meet his initial burden of production. In view of this omission alone, the rejection should be withdrawn.

More importantly, base claim 19 defines a manufacturing method of a linear motor comprising an armature made of magnetic material, a coil wound on the armature, and a needle that moves relatively to the armature by acting upon the magnetic field generated by the armature, comprising:

rows of magnetic pole teeth on one side which are magnetically connected to one magnetic pole of the armature and arranged at two stages, first and second, nearly perpendicular to the moving direction of the needle; and

rows of magnetic pole teeth on the other side which are magnetically connected to the other magnetic pole of the armature and arranged at two stages, first and second, nearly perpendicular to the moving direction of the needle;

wherein a first-stage tooth of the magnetic pole teeth on one side and a first-stage tooth of the magnetic pole teeth on the other side are arranged alternately along the moving direction of the needle;

a second-stage tooth of the magnetic pole teeth on one side and a second-stage tooth of the magnetic pole teeth on the other side are arranged alternately along the moving direction of the needle; and

the needle is put between the first-stage magnetic pole teeth of both sides and the second-stage magnetic pole teeth of both sides;

wherein an armature unit integrated from the armature core, magnetic poles, and magnetic pole teeth in one piece is manufactured separately from laminated steel plate and the armature is constructed by combining the separately manufactured armature unit and the coil.

In contrast to Applicants' base claim 19, Karita '431 only discloses a conventional linear motor, as shown in FIG. 1, having two sides, i.e., a primary magnetic member 1a and a secondary magnetic member 23, in which the magnetic flux, shown by a dotted loop in FIG. 1, transversely flows between magnetic pole teeth arranged adjacently through the primary core 3.

However, there is **no** disclosure anywhere in Karita '431 of key features of Applicants' base claim 19, including "rows of magnetic pole teeth on one side which are magnetically connected to one magnetic pole of the armature and arranged at two stages, first and second, nearly perpendicular to the moving direction of the

needle," "rows of magnetic pole teeth on the other side which are magnetically connected to the other magnetic pole of the armature and arranged at two stages, first and second, nearly perpendicular to the moving direction of the needle" in which "a first-stage tooth of the magnetic pole teeth on one side and a first-stage tooth of the magnetic pole teeth on the other side are arranged alternately along the moving direction of the needle", "a second-stage tooth of the magnetic pole teeth on one side and a second-stage tooth of the magnetic pole teeth on the other side are arranged alternately along the moving direction of the needle; and "the needle is put between the first-stage magnetic pole teeth of both sides and the second-stage magnetic pole teeth of both sides" as expressly defined in Applicants' base claim 19.

Likewise, base claim 18, as amended, defines a manufacturing method of a linear motor comprising:

providing an armature and a needle having magnetic poles, wherein an armature core to be wound with a coil, magnetic poles on both sides; and

providing a magnetic pole unit integrated from upper magnetic pole teeth and opposed lower magnetic pole teeth obtained separately from laminated steel plate to form an armature unit;

wherein the armature equipped with a magnetic pole of the first polarity having the first opposing section and another magnetic pole of the second polarity having the second opposing section is provided by assembling the armature unit, and

wherein said magnetic pole of the first polarity and said another magnetic pole of the second polarity are produced by electrifying a common coil.

Again, there is **no** disclosure anywhere in Karita '431 of key features of Applicants' base claim 18. Therefore, in view of the complete failure of Karita '431 to anticipate key features of Applicants' base claims 18-19, Applicants respectfully request that the rejection of base claims 18-19 be withdrawn.

With respect to Applicants' base claim 1, base claim 1 has been amended to clearly distinguish over Karita '431 in order to place in condition for allowance. For example, base claim 1 defines a linear motor, comprising:

an armature; and
a needle with magnetism;
the armature being equipped at least with a magnetic pole of a first polarity having a first opposing section and another magnetic pole of a second polarity having a second opposing section;
said magnetic pole of the first polarity and said another magnetic pole of the second polarity being produced by electrifying with a common coil; and
the needle being placed between the first opposing section and the second opposing section such that a magnetic flux flows through the needle in a gap between the first opposing section and the second opposing section.

As expressly defined in Applicants' base claim 1, the magnetic flux flows through the needle between the first opposing section and the second opposing section. As a result, a magnetic path of effective fluxes becomes advantageously shorter, the magnetic resistance becomes lower, the effective magnetic flux increases, and the magnetic flux leakage decreases.

In addition, the magnetic pole of the first polarity and the another magnetic pole of the second polarity are produced by electrifying with a common coil, which advantageously reduces the number of coils used.

In contrast to Applicants' base claim 1, Karita '431 discloses a completely different linear motor, as previously discussed, one in which both a primary magnetic member 1a and a secondary magnetic member 23 are used so that the magnetic flux, shown by a dotted loop in FIG. 1, transversely flows between magnetic pole teeth arranged adjacently through the primary core 3.

Karita '431 does not disclose or suggest the flow of magnetic flux and the common coil in the manner expressly defined in Applicants' base claim 1.

As previously discussed, the rule under 35 U.S.C. §102 is well settled that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Those elements must either be inherent or disclosed expressly and must be arranged as in the claim. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989); Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 7 USPQ2d 1057 (Fed. Cir. 1988); Verdegall Bros., Inc. v. Union Oil Co., 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). The corollary of that rule is that absence from the reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

In the present situation, Karita '413 fails to disclose and suggest key features of Applicants' base claim 1, as well as Applicants' base claims 18-19. Therefore, Applicants respectfully request that the rejection of claims 1, 5, 16-19 be withdrawn.

Claims 1, 5, 13 and 16-19 have also been rejected under 35 U.S.C. §102(b) as being anticipated by Miroshnichenko et al., U.S. Patent No. 4,868,431 for reasons stated on page 2 of the Office Action (Paper No. 0704). Again, as previously discussed, claim 13 has been canceled without prejudice or disclaimer to render its rejection moot. Claims 16-17 have been amended to depend upon the now allowed claim 14 to render their rejection moot. With respect to base claims 1, 18 and 19, Applicants respectfully traverse the rejection for reasons discussed herein below.

First of all, base claims 18-19 contain key features, as previously discussed, which the Examiner has **not** addressed in compliance with 35 U.S.C. §102. More importantly, Miroshnichenko '350 only discloses an asynchronous line-fed motor, as shown in FIG. 1, in which an induction motor is composed of individual laminated cores forming two rows extending in the direction of travel of the magnetic field. However, Miroshnichenko '350 does **not** disclose any of the key features of Applicants' base claims 18-19, as presented above. As a result, Applicants respectfully request that the rejection of base claims 18-19 be withdrawn.

Secondly, base claim 1 has been amended to define, *inter alia*, that the magnetic flux flows through the needle between the first opposing section and the second opposing section, and that the magnetic pole of the first polarity and the another magnetic pole of the second polarity are produced by electrifying with a common coil. As a result, a magnetic path of effective fluxes becomes advantageously shorter, the magnetic resistance becomes lower, the effective magnetic flux increases, and the magnetic flux leakage decreases. In addition, the number of coils used is advantageously reduced.

In contrast to Applicants' base claim 1, Miroshnichenko '350 discloses an asynchronous line-fed motor, as shown in FIG. 1, in which a needle 8 is actuated to and from through a gap. Here, different coils are wound separately on respective C-type magnet cores, and the alternative magnetic field is formed in the air gap for passing through the needle 8 by flowing the electric current in the coils.

However, there is no disclosure from Miroshnichenko '350 of Applicants' claimed "the magnetic flux [flows] through the needle between the first opposing section and the second opposing section" and "the magnetic pole of the first polarity

and the another magnetic pole of the second polarity [being] produced by electrifying with a common coil" as expressly defined in Applicants' base claim 1.

Since Miroshnichenko '350 fails to disclose and suggest key features of Applicants' base claim 1, as well as Applicants' base claims 18-19. Therefore, Applicants respectfully request that the rejection of claims 1, 5, 16-19 be withdrawn.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600. Applicants respectfully reserve all rights to file subsequent related application(s) (including reissue applications) directed to any or all previously claimed limitations/features which have been amended or canceled, or to any or all limitations/features not yet claimed, i.e., Applicants have no intention or desire to dedicate or surrender any limitations/features of the disclosed invention to the public.

INTERVIEW:

In the interest of expediting prosecution of the present application, Applicants respectfully request that an Examiner interview be scheduled and conducted. In accordance with such interview request, Applicants respectfully request that the Examiner, after review of the present Amendment, contact the undersigned local Washington, D.C. area attorney at the local Washington, D.C. telephone number (703) 312-6600 for scheduling an Examiner interview, or alternatively, refrain from issuing a further action in the above-identified application as the undersigned attorneys will be telephoning the Examiner shortly after the filing date of this

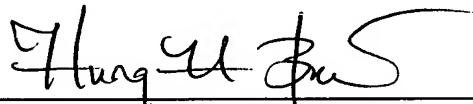
Amendment in order to schedule an Examiner interview. Applicants thank the Examiner in advance for such considerations. In the event that this Amendment, in and of itself, is sufficient to place the application in condition for allowance, no Examiner interview may be necessary.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 503.40639CX1), and please credit any excess fees to said deposit account.

Respectfully submitted,

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